Arizona LEARNS

A Step by Step Guide to Calculating an Achievement Profile

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Putting it All Together: How to Calculate an Achievement Profile

Calculating an Elementary School Achievement Profile

In order to accurately compute an Achievement Profile for a school, several pieces of data must be collected.

Elementary Schools must have the following data:

➢ Three years of AIMS scores in reading, writing and math (2000, 2001 and 2002)

➢ MAP (2000, 2001 and 2002). These data are used to provide Added Evidence for a school's Achievement Profile

➢ EWS (2000, 2001 and 2002). Just as MAP, the Extended Writing Scores are used to provide Added Evidence.

High schools must have:

➢ Three years of reading and writing AIMS data (2000, 2001 and 2002) and two years of math (2001 and 2002)

➢ Three years of dropout rate (2000, 2001 and 2002)

➢ 2 years of graduation rate (2000 and 2001). Some schools may not require graduation rate data

Step 1: Determine Baseline Grouping

A school's baseline grouping is determined from its 2000 AIMS data (baseline data). In each grade and subject area, the percent of students that met or exceeded the standard is computed and compared to the appropriate state groupings, as determined by the federal NCLB legislation. For example, if, in 2000, 84% of the students in grade 3 math met or exceeded the standard, the baseline grouping for that area would be 5.

Step 2: Determine Growth Points for AIMS

Determining a school's change points for each subject/grade combination on the AIMS portion of a profile is based on student movement out of the FFB category and student movement into the Meet/EXC category, according to the difference between the three year average and the baseline percentages. A three year average is calculated by adding the total number of students in each category over three years and dividing by

the total number of students tested for each subject/grade combination (see Figure 1).

Figure 1: Calculating a 3 Year Average for %FFB and Meet/Exc

		Total Number of Students that FFB or Meet/EXC	
3 Year Ave	=	⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯	X 100
		Total Number of Students Tested Over 3 Years	

High school AIMS math test does not use the academic year 2000 for the baseline year. The baseline for this subject/grade combination is 2001.

It is considered a positive change if the three year average percentage of students in the Meet/EXC category is higher than the baseline percentage, or the three year average of students in the FFB is lower than the baseline percentage. It is considered a negative change if the three year average percentage of students in the Meet/EXC category is lower than the baseline, or if the three year average percent of students in the FFB category is higher than the baseline percentage. It is expected that schools will increase the percentage of students that meet the standards over time, not increase the percentage that falls far below the standard (see Figure 2).

Figure 2: Positive Growth Points

For example, assume a school has the following data:

Grade	Subject	Academic Year	% FFB	% Meet/Exc
3	Math	2000	25.56	34.44
		2001	37.80	32.93
		2002	28.57	35.71
		3 Year Averages	30.70	34.21

The three year average for the percentage of students in the FFB category is higher than the baseline percentage, which is a negative change. Likewise, the three year average for students that met the standard is slightly lower than the baseline percentage (34.21 compared to a baseline of 34.44). This is also a negative change; a school should increase the percentage of students meeting the state standard over time.

The change points associated with grade 3 math for this school will be determined according to the following:

	3 Year Average	Baseline	Difference
FFB	30.7	25.56	-5.14
Meet/EXC	34.21	34.44	-0.23

Since these changes both represent a negative change, in terms of the academic growth in this example, the values will be negative, such that the total change points in grade 3 math for this school will be -5.37.

If the difference between the three year average and the baseline in the Meet/EXC category were positive, the total change points would have reflected this positive change: -5.14 +0.23 = -4.91.

Step 3: Determine Growth Points for Added Evidence

The Stanford 9 test is distributed to elementary grades two through nine and measures student performance in the areas of math and reading. Additionally, unlike the AIMS growth points, Added Evidence points are determined by the performance of the entire school.

Math and reading Added Evidence scores are taken from a three year average of the percentage of students in each school, and in each subject, that accomplish OYG from one year to the next. A three year average is calculated by taking the combined total number of students that make OYG in math and reading and dividing by the total number of students tested in math and reading (see Figure 3).

Figure 3: Calculating a 3 Year Average for MAP

$$\text{3 Year Average} = \frac{\text{Combined three year total number of students who made OYG (Math and Reading)}}{\text{Total number of students who were tested over 3 years}} \times 100$$

After a school level three year average percent of students making OYG in math and reading is calculated for each school, growth points may be

attributed to each grade and subject area if the percentage is 60% or greater.

Table 1: Added Evidence Growth Points for MAP

Subject/Grade Combination	Mean of Growth Point Distribution	Standard Deviation	Three Year Average % OYG			
			90% + OYG	80-89% OYG	70-79% OYG	60-69% OYG
			.26 SD	0.2	0.14	0.08
Math 3	8.3	15.02	3.91	3.00	2.10	1.20
Math 5	7.7	14.08	3.66	2.82	1.97	1.13
Math 8	0.9	14.33	3.73	2.87	2.01	1.15
Read 3	2.5	12.15	3.16	2.43	1.70	0.97
Read 5	-10.1	12.33	3.21	2.47	1.73	0.99
Read 8	6.2	13.95	3.63	2.79	1.95	1.12

For example, if a school's three year average of the percentage of students achieving OYG in math is 90%, the Added Evidence point value for MAP in grade 3 math is 3.9.

Extended Writing Added Evidence points are derived from a three year average percent of students that attain a total of 24 points on the six trait scores associated with the AIMS writing test. A three year average is calculated by taking the combined three year total of the number of students that attain 24 points on the writing trait scores and dividing by the total number of students tested in each evaluated grade. (see Figure 4).

Figure 4: Calculating a 3 Year Average for EW

3 Year Average	=	Combined three year total number of students who achieved 24 pts	X 100
		Total number of students who were tested in each grade over 3 years	

The value of the Added Evidence points granted for each grade in writing was derived directly from the statewide distribution (See Table 2).

Table 2: Additional Growth Points Based on Extended Writing

This percentage of students with 24 or more EW points			Will yield this many EW change points	Location within state distribution
	From	To		
Write 3	15.61	21.7	1.02	From -.5 SD to Mean
	21.7	27.79	1.79	Mean to .5 SD
	27.79	33.88	2.56	.5 to 1 SD
	33.88	Highest	3.32	Greater than 1 SD
Write 5	27.39	35.6	1.15	From -.5 SD to Mean
	35.6	43.82	2.01	Mean to .5 SD
	43.82	52.03	2.87	.5 to 1 SD
	52.03	Highest	3.74	Greater than 1 SD
Write 8	27.98	36.4	0.93	From -.5 SD to Mean
	36.4	44.82	1.62	Mean to .5 SD
	44.82	53.24	2.32	.5 to 1 SD
	53.24	Highest	3.02	Greater than 1 SD

For example, if grade 3 in a school showed a three year average of 25.0% (the percentage of students that attained a total of 24 or more EW), the additional points for the grade 3 writing portion of the profile will be 1.79 (see Table 2).

Step 4: Determine Total Growth Points

Total growth points are calculated for each subject/grade combination in a school by adding together the AIMS change points and the Added Evidence points. For example, if a school had 78% make OYG in math, the change points for MAP in grade 3 math would be 2.10.

Also, suppose the AIMS change points in the same subject and grade were 8.36.

These points are added together to determine a school's total growth points for grade 3 math:

Figure 5: Calculating a School's Total Change Points for Grade 3 Math
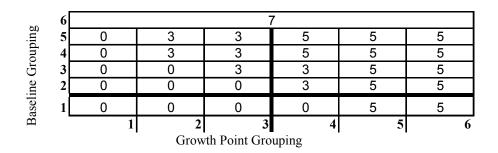
AIMS + MAP = Total Change Points

8.36 + 2.10 = 10.46

Step 5: Determine the Appropriate Point Outcome Grid

After total growth points are calculated for each subject/grade combination, the appropriate 6x6 grid is used to determine the point

outcomes for that portion. Each grid is unique to a subject/grade combination and is derived from the baseline groupings and the statewide distribution of change points.

Table 3: Subject/Grade Values Grid

Baseline Grouping	Growth Point Grouping 1	2	3	4	5	6
6	7					
5	0	3	3	5	5	5
4	0	3	3	5	5	5
3	0	0	3	3	5	5
2	0	0	0	3	5	5
1	0	0	0	0	5	5

> ➤ Vertical Axis: Baseline groupings, which are calculated by following the NCLB methodology for determining the state's "starting point"

> ➤ Horizontal Axis: Growth point groupings, based on the state distribution for each subject/grade combination

For example, for grade 3 math, the point outcomes and axis values will look like the following:

Figure 6: Example: Math Grade 3 Baseline Grouping and Growth Cut Points

Baseline Groupings						
90	7					
75	0	3	3	**5**	5	5
61	0	3	3	5	5	5
48	0	0	3	3	5	5
32	0	0	0	3	5	5
	0	0	0	0	5	5

-6.72	.79	8.3	15.81	23.32
-1.0 SD	-.5 SD	$\overline{X}$	.5 SD	1.0 SD

Growth Point Groupings

Notice that a maximum of 7 points is given to a combination in which the 3 year average percent of students that has met or exceeded the standard on AIMS is 90% or greater, regardless of the number of change points.

In the example above, since this school's 3 year average percent of students meeting or exceeding the standard is less than 90%, the baseline figure is used. The baseline percent for AIMS is 84% MEET or EXC and the total change points for grade 3 math is 10.46. Therefore, the point

value for this portion of the profile would be, according to the grid in Figure 6, equal to 5. This process is repeated for each subject and grade combination in a school.

| **Step 6: Determine Total Point Outcomes** | All point outcomes are added together and compared to a scale range in order to determine a final Achievement Profile for the school. The scales are varied based on the number of grade and test combinations in a school; if a school only serves grade 3, the scale is based on three categories (reading, writing and math) and if a school has grades 3 and 5, the label ranges are based on six categories (three subjects for each grade). |

Suppose an elementary school serves grades kindergarten through 8, with the following point values based on AIMS and Added Evidence:

Figure 7: Point Value Outcomes for a K-8 School

Scale	
Underperforming	0-14
Maintaining	15-35
Improving	36-62
Excelling	63-63

| **Step 7: Determine Subject/Grade Value Scale** | After adding all subject/grade values together to achieve a total of 37, this value is compared to the nine subject/grade value scale, as this school has nine subject/grade combinations. |

Figure 8: Nine Subject/Grade Values Scale

Grade	Reading	Writing	Math	
3	5	7	5	17
5	5	5	5	15
8	0	0	5	5
			TOTAL	**37**

In this example, the school will receive an Achievement Profile of **Improving** because the total point outcome is 37.

For a complete look at the different label ranges, please see Appendix 9, page 11.

Calculating a High School Profile

A high school profile is calculated using AIMS change points, graduation and dropout rates; Added Evidence points are not included. In the end, points from the AIMS portion are added to the total points gained from the dropout and graduation rate portion.
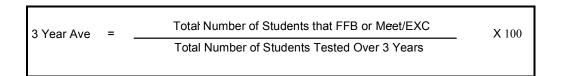
Step 1: Determine Baseline Grouping

A school's baseline grouping is determined from its 2000 AIMS reading and writing data and 2001 math data (baseline data). In each grade and subject area, the percent of students that met or exceeded the standard is computed and compared to the appropriate state groupings, as determined by the federal NCLB legislation. For example, if, in 2000, 84% of the students in high school writing met or exceeded the standard, the baseline grouping for that area would be.

Step 2: Determine Growth Points for AIMS

Determining a school's change points for each subject/grade combination on the AIMS portion of a profile is based on student movement out of the FFB category and student movement into the Meet/EXC category, according to the difference between the three year average and the baseline percentages. A three year average is calculated by adding the total number of students in each category over three years and dividing by the total number of students tested for each subject/grade combination (see Figure 9).

Figure 9: Calculating a 3 Year Average for %FFB and Meet/Exc

$$3 \text{ Year Ave} = \frac{\text{Total Number of Students that FFB or Meet/EXC}}{\text{Total Number of Students Tested Over 3 Years}} \times 100$$

High school AIMS math test does not use the academic year 2000 for the baseline year. The baseline for this subject/grade combination is 2001.

It is considered a positive change if the three year average percentage of students in the Meet/EXC category is higher than the baseline percentage, or the three year average of students in the FFB is lower than the baseline percentage. It is considered a negative change if the three year average percentage of students in the Meet/EXC category is lower than the baseline, or if the three year average percent of students in the FFB category is higher than the baseline percentage. It is expected that schools will increase the percentage of students that meet the standards over time, not increase the percentage that falls far below the standard (see Figure 10).

Figure 10: Positive Growth Points

	FFB	APP	MEET/EXC
	↓		↑

For example, assume a school has the following data:

Grade	Subject	Academic Year	% FFB	% Meet/Exc
High	Writing	2000	25.56	34.44
		2001	37.80	32.93
		2002	28.57	35.71
		3 Year Averages	30.70	34.21

The three year average for the percentage of students in the FFB category is higher than the baseline percentage, which is a negative change. Likewise, the three year average for students that met the standard is slightly lower than the baseline percentage (34.21 compared to a baseline of 34.44). This is also a negative change; a school should increase the percentage of students meeting the state standard over time.

The change points associated with grade high school writing for this school will be determined according to the following:

	3 Year Average	Baseline	Difference
FFB	30.7	25.56	-5.14
Meet/EXC	34.21	34.44	-0.23

Since these changes both represent a negative change, in terms of the academic growth in this example, the values will be negative, such that the total change points in high school writing for this school will be -5.37.

If the difference between the three year average and the baseline in the Meet/EXC category were positive, the total change points would have reflected this positive change: -5.14 +0.23 = -4.91.

Step 3: Determine the Appropriate Point Outcome Grid

After total growth points are calculated for each subject/grade combination, the appropriate 6x6 grid is used to determine the point outcomes for that portion. Each grid is unique to a subject/grade combination and is derived from the baseline groupings and the statewide distribution of change points.

Table 4: Subject/Grade Values Grid

Baseline Grouping \ Growth Point Grouping	1	2	3	4	5	6
6	7 (spans all)					
5	0	3	3	5	5	5
4	0	3	3	5	5	5
3	0	0	3	3	5	5
2	0	0	0	3	5	5
1	0	0	0	0	5	5

- ➢ Vertical Axis: Baseline groupings which are calculated by following the NCLB methodology for determining the state's "starting point"
- ➢ Horizontal Axis: Growth point groupings, based on the state distribution for each subject/grade combination

For example, for high school writing, the point outcomes and axis values will look like the following:

Figure 11: Example: Math Grade 10 Baseline Grouping and Growth Cut Points
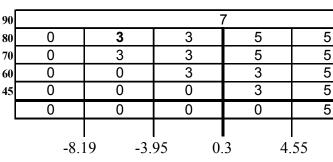

Baseline Groupings						
90	7 (spans all)					
80	0	**3**	3	5	5	5
70	0	3	3	5	5	5
60	0	0	3	3	5	5
45	0	0	0	3	5	5
	0	0	0	0	5	5

	-8.19	-3.95	0.3	4.55	8.79
	-1.0 SD	-.5 SD	$\overline{X}$	.5 SD	1.0 SD

Growth Point Groupings

Notice that a maximum of 7 points is given to a combination in which the 3 year average percent of students that has met or exceeded the standard on AIMS is 90% or greater, regardless of the number of change points.

In the example above, since this school's 3 year average percent of students meeting or exceeding the standard is less than 90%, the baseline figure is used. The baseline percent for AIMS is 84% MEET or EXC and the total change points for high school writing is –5.37. Therefore, the point value for this portion of the profile would be, according to the grid in Figure 11, equal to 3. This process is repeated for each subject and grade combination in a school.

Step 4: Determine the Outcome Values for Dropout and Graduation Rate

In order for a school to meet the target for their annual dropout rate achievements, incremental decreases must be made from one year to the next. These decreases are evaluated by comparing the three year average rate to the baseline rate.

A school can meet the target for dropout rate in multiple ways, depending upon what the three year average rate is:

➢ If the three year average for the annual dropout rate is 6.0% or less, the target is automatically met.

If the three year average is greater than 6.0%, the baseline rate is used as a reference point.

➢ If the baseline rate is less than or equal to 9.4%, the difference between the three year average and the baseline rate must be greater than or equal to 0.5%.

➢ If the baseline rate is greater than 9.4%, the difference between the three year average and the baseline rate must be greater than or equal to 1.5%.

In order a school meets the target for their 5 year graduation rate achievements, incremental gains must be made from one year to the next. These gains are evaluated by comparing the two year average rate to the baseline rate.

For graduation rate data, due to a move to a five year rate, only two years of data can be used: 2000 and 2001. As with all other data used in the 2002 profile, 2000 graduation rate is used as a school's baseline.

A school can meet the target for graduation rate in multiple ways, depending upon what the two year average rate is:

➢ If the two year average is 89.5% or greater, the target is automatically met.

If the two year average is less than 89.5%, the baseline rate is used as a reference point.

➢ If the baseline rate is greater than or equal to 73.5%, the difference between the two year average and the baseline rate must be greater than or equal to 0.5%.

➢ If the baseline rate is less than 73.5%, the difference between the two year average and the baseline rate must be greater than or equal to 1.5%.

The dropout and graduation rates, when both are expected from a school, work together in order to produce a point value outcome for this portion of a school's profile. The following table summarizes these outcomes:

Table 5: Point Value Outcomes For Dropout and Graduation Rates

If the 3 Year Dropout Rate average is	**AND** the 2 year graduation rate average is:	The Point Value Outcome is:
< or = 6.0%	> or = 89.5%	7

Dropout Rate: Met Target?	**Graduation Rate:** Met Target?	**Point Value Outcome**
Yes	Yes	5
No	Yes	3
Yes	No	3
No	No	0

If only the dropout rate is expected from a school, the following outcomes are possible:

Table 6: Point Value Outcomes for Dropout Rate: Alternative Calculation

If the 3 Year Dropout Rate average is	The Point Value Outcome is:
< or = 6.0%	7

Dropout Rate: Met Target?	**Point Value Outcome**
Yes	5
No	0

Step 5: Determine Total Point Outcomes

All point outcomes are added together and compared to a scale range in order to determine a final Achievement Profile for the school.

Suppose a high school was determined to have the following point value outcomes for AIMS and dropout and graduation rate:

Figure 12: High School Four Subject/Grade Values

Grade	Reading	Writing	Math	Grad/DO	
HS	3	3	3	0	9
				TOTAL	**9**

The total points are then compared to the label ranges for the high school model:

Figure 13: Four Subject/Grade Value Scale

Scale	
Underperforming	0-5
Maintaining	6-14
Improving	15-27
Excelling	28-28

This school would receive a **Maintaining** Achievement Profile based on the high school label ranges.

For a complete look at the different label ranges, please see Appendix 9, page 11.

Appendix 1: Baseline Grouping Separation Points
Calculated on 2000 Data with NCLB Methodology

	Reading		Math		Writing	
	Group	**Cut Point**	**Group**	**Cut Point**	**Group**	**Cut Point**
Grade 3						
Group 6*	90-100		90-100		90-100	
Group 5	88-89	88	75-89	75	93	93
Group 4	79-87	79	61-74	61	88-92	88
Group 3	69-78	69	48-60	48	80-87	80
Group 2	54-68	**54**	32-47	**32**	64-79	**64**
		Maintaining Line				
Group 1	0-53		0-31		0-63	
Grade 5						
Group 6*	90-100		90-100		90-100	
Group 5	84-89	84	52-89	52	73-89	73
Group 4	74-83	74	40-51	40	61-72	61
Group 3	62-73	62	27-39	27	50-60	50
Group 2	45-61	**45**	14-26	**14**	34-49	**34**
		Maintaining Line				
Group 1	0-44		0-13		0-33	
Grade 8						
Group 6*	90-100		90-100		90-100	
Group 5	70-89	70	30-89	30	67-89	67
Group 4	59-69	59	20-29	20	55-66	55
Group 3	48-58	48	12-19	12	43-54	43
Group 2	34-47	**34**	6-11	**6**	30-42	**30**
		Maintaining Line				
Group 1	0-33		0-5		0-29	

Appendix 1 (Cont'd):

High School						
Group 6*	90-100		90-100		90-100	
Group 5	80-89	80	41-89	41	44-89	44
Group 4	70-79	70	31-40	31	33-43	33
Group 3	60-69	60	21-30	22	24-32	24
Group 2	45-59	**45**	11-21	**11**	14-23	**14**
		Maintaining Line				
Group 1	0-44		0-10		0-13	

Note: All cells represent percentage of students Meeting or Exceeding the Standards on 2000 AIMS

*Group 6 includes schools with a three-year average of at least 90% of students Meeting or

Exceeding the Standards on AIMS

Appendix 2: Added Evidence: Growth Points for MAP

Subject/Grade	SD	%Students Making One Year's Growth (OYG)			
		90%	**80-89%**	**70-79%**	**60-69%**
		0.26	0.2	0.14	0.08
Math					
3	15.02	3.91	3.00	2.10	1.20
5	14.08	3.66	2.82	1.97	1.13
8	14.33	3.73	2.87	2.01	1.15
Reading					
3	12.15	3.16	2.43	1.70	0.97
5	12.33	3.21	2.47	1.73	0.99
8	13.95	3.63	2.79	1.95	1.12

Appendix 3: Additional Growth Points Based on Extended Writing (EW)

Percentage of Students with 24 or more EW Points			Will Yield this many EW Change Points
	From	To	
Grade 3	15.6	21.7	1.02
	21.7	27.8	1.79
	27.8	33.9	2.56
	33.9	Highest	3.32
Grade 5	27.4	35.6	1.15
	35.6	43.8	2.01
	43.8	52	2.87
	52	Highest	3.74
Grade 8	28	36.4	0.93
	36.4	44.8	1.62
	44.8	53.2	2.32
	53.2	Highest	3.02

Appendix 4: Growth Cut-Points for Each Subject/Grade Combination

Subject/Grade	State Mean	SD	Cut Points				
			-1 SD	-.5 SD	Mean	.5 SD	1 SD
Math							
3	8.3	15.02	-6.72	0.79	8.3	15.81	23.32
5	7.7	14.08	-6.38	0.66	7.7	14.74	21.78
8	0.9	14.33	-13.43	-6.27	0.9	8.07	15.23
Reading							
3	2.5	12.15	-9.65	-3.58	2.5	8.58	14.65
5	-10.1	12.33	-22.43	-16.27	-10.1	-3.94	2.23
8	6.2	13.95	-7.75	-0.78	6.2	13.18	20.15
Writing							
3	-3.1	12.78	-15.88	-9.49	-3.1	3.29	9.68
5	0.8	14.37	-13.57	-6.39	0.8	7.99	15.17
8	-3.6	11.6	-15.2	-9.4	-3.6	2.2	8
High School							
Math	0.3	8.49	-8.19	-3.95	0.3	4.55	8.79
Reading	1.1	15.51	-14.41	-6.66	1.1	8.86	16.61
Writing	12.5	19.93	-7.43	2.54	12.5	22.47	32.43

Appendix 5: Graduation and Dropout Rates Targets and Values

Baseline[*] Dropout Rate	Target[**]	Baseline* Graduation Rate	Target**
6-9%	1% Decrease	74-90%	1% Increase
> 9%	2% Decrease	< 74%	2% Increase

School met target in		Subject/grade Value
Graduation	Dropout	
90% or Greater 3-Year Average	6% or Less 3-Year Average	7
Yes	Yes	5
Yes	No	3
No	Yes	3
No	No	0

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[*] The baseline is the 2000 academic year.
[**] The annual dropout rate targets are the differences between the baseline year and the three year average for the 2000-2002 academic years. The graduation rate targets are the differences between the baseline year and the two year average for the 2000-2001 academic years.

Appendix 6: Subject Grade/Level Table

For each subject/grade combination:

If the AIMS three-year average is greater than or equal to 90%, the school shall receive 7 points for the subject/grade combination.

If the baseline group is 1 and the total growth point value is less than the half standard deviation cut point (.5 SD), the school shall receive 0 points for the subject/grade combination.

If the baseline group is 1 and the total growth point value is greater than or equal to the half standard deviation cut point (.5 SD), the school shall receive 5 points for the subject/grade combination.

If the baseline group is 2 and the total growth point value is less than the mean cut point, the school shall receive 0 points for the subject/grade combination.

If the baseline group is 2 and the total growth point value is greater than or equal to the mean cut point and less than the half standard deviation cut point (.5 SD), the school shall receive 3 points for the subject/grade combination.

If the baseline group is 2 and the total growth point value is greater than or equal to the half standard deviation cut point (.5 SD), the school shall receive 5 points for the subject/grade combination.

If the baseline group is 3 and the total growth point value is less than the negative half standard deviation cut point (-.5), the school shall receive 0 points for the subject/grade combination.

If the baseline group is 3 and the total growth point value is greater than or equal to the negative half standard deviation cut point (-.5) and less than the half standard deviation cut point (.5 SD), the school shall receive 3 points for the subject/grade combination.

If the baseline group is 3 and the total growth point value is greater than or equal to the half standard deviation cut point (.5 SD), the school shall receive 5 points for the subject/grade combination.

If the baseline group is 4 or 5 and the total growth point value is less than the negative 1 standard deviation cut point (-1 SD), the school shall receive 0 points for the subject/grade combination.

If the baseline group is 4 or 5 and the total growth point value is greater than or equal to the negative 1 standard deviation cut point (-1 SD) and less than the mean cut point, the school shall receive 3 points for the subject/grade combination.

If the baseline group is 4 or 5 and the total growth point value is greater than or equal to the mean cut point, the school shall receive 5 points for the subject/grade combination.

Appendix 7: Alternative School Definition

A public school desiring identification as an *alternative school* must apply to the Arizona State Board of Education for such status. These schools must be separate entities according to Arizona school finance provisions (funded as a school, reported as a school, etc.). **Alternative school status will *not* be granted to a program within a school.**.

An *alternative school* is a school that the Arizona State Board of Education has determined meets *all* of the following criteria:

A school operated by a school district must have adopted a mission statement that clearly identifies its purpose and intent to serve a specific student population (please see criterion #3) that will benefit from an alternative school setting. A charter school must be expressly chartered to serve a specific student population that will benefit from an alternative school setting. (Note: The school's mission statement or charter must be communicated to the public.)

➢ The educational program and related student services of the school must match the mission or charter of the school.

➢ The school must intend to serve students exclusively in one or more of the following categories:

➢ Students with behavioral issues (documented history of disruptive behavior)

➢ Students identified as dropouts

➢ Students in poor academic standing who are either severely behind on academic credits (more than one year) or have a demonstrated pattern of failing grades

➢ Pregnant and/or parenting students

➢ Adjudicated youth

➢ Any school offering secondary instruction for academic credit used to fulfill Arizona State Board of Education graduation requirements (in part or in full) must offer a diploma of high school graduation.

Please Note: No public school district may have more than ten percent (10%) of their total student population attending an alternative school or any combination of alternative schools served by the district at one time. Smaller districts, if they wish, may participate in the development of a "consortium" alternative school.

Appendix 7 (Cont'd):

Achievement Profile for Alternative Schools

➢ Ninety-five percent (95%) of students taking Arizona's Instrument to Measure Standards (AIMS): **Criteria:** The ADE will develop a consistent formula to determine the percentage of students taking AIMS for all public schools and will apply this formula to alternative schools.

➢ Decrease Dropout rate: **Criteria:** Alternative schools will have the same Annual Dropout Rate targets as conventional public schools (see Table 2).

➢ Increase the percentage of graduates who demonstrate proficiency on the Standards via AIMS: **Criteria:** The 2002 academic year is the baseline. Every alternative school is expected to have 100% of graduates demonstrate proficiency of the Standards via AIMS by 2006. The expected annual progress for each alternative school is calculated as follows:

➢ Subtract the percentage of graduates who also demonstrate proficiency of the Standards on the 2000 AIMS from 100%.

➢ Divide the remainder by four (4).

Appendix 8: Small Schools Adjustment

A small school is defined in ARS § 15-241 as a school with a student count of less than 100 as determined by unweighted Average Daily Membership (ADM). For every subject/grade combination with 16 or more students tested, the ADE will adjust the school's data to remove low-performing outlier students and complete the conventional process to produce an achievement profile. If after the adjustment the subject/grade value is changed, the school shall receive the higher of subject/grade value.

Appendix 9: Subject/Grade Value Classification Scales-All Grades

2 Subject/Grade Values:

SCALE		
U	0	**4**
M	5	**9**
I	10	**13**
E	14	**14**

3 Subject/Grade Values:

SCALE		
U	0	**5**
M	6	**11**
I	12	**20**
E	21	**21**

4 Subject/Grade Values[*]:

SCALE		
U	0	**5**
M	6	**14**
I	15	**27**
E	28	**28**

5 Subject/Grade Values[**]:

SCALE		
U	0	**8**
M	9	**18**
I	19	**34**
E	35	**35**

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[*] A school in the 4 subject/grade values, with a point value of 7, consisting of three 0s and one 7, shall be underperforming.

[**] A school in the 5 subject/grade values, with a point value of 10, consisting of three 0s, one 3 and one 7, shall be underperforming. A school in the 5 subject/grade values, with a point value of 10, consisting of three 0s and two 5s shall be underperforming. A school in the 5 subject/grade values, with a point value of 12, consisting of three 0s, one 5 and one 7, shall be underperforming.

Appendix 9 (Cont'd):

6 Subject/Grade Values[*]:

SCALE		
U	0	**8**
M	9	**23**
I	24	**41**
E	42	**42**

7 Subject/Grade Values[**]:

SCALE		
U	0	**11**
M	12	**25**
I	26	**48**
E	49	**49**

8 Subject/Grade Values[***]:

SCALE		
U	0	**11**
M	12	**28**
I	29	**55**
E	56	**56**

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[*] A school in the 6 subject/grade values, with a point value of 10, consisting of four 0s, one 3 and one 7, shall be underperforming. A school in the 6 subject/grade values, with a point value of 10, consisting of four 0s and two 5s shall be underperforming. A school in the 6 subject/grade values, with a point value of 12, consisting of four 0s, one 5 and one 7, shall be underperforming.

[**] A school in the 7 subject/grade values, with a point value of 12, consisting of five 0s, one 5 and one 7, shall be underperforming.

[***] A school in the 8 subject/grade values, with a point value of 12, consisting of six 0s, one 5 and one 7, shall be underperforming.

Appendix 9 (Cont'd):

9 Subject/Grade Values[*]:

SCALE		
U	0	**14**
M	15	**35**
I	36	**62**
E	63	**63**

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[*] A school in the 9 subject/grade values, with a point value of 15, consisting of six 0s, one 3, one 5 and one 7, shall be underperforming. A school in the 9 subject/grade values, with a point value of 15, consisting of six 0s and three 5s, shall be underperforming. A school in the 9 subject/grade values, with a point value of 17, consisting of six 0s, one 3 and two 7s, shall be underperforming. A school in the 9 subject/grade values, with a point value of 17, consisting of six 0s, two 5s and one 7, shall be underperforming. A school in the 9 subject/grade values, with a point value of 19, consisting of six 0s, one 5 and two 7s, shall be underperforming. A school in the 9 subject/grade values, with a point value of 35, consisting of two 0s, seven 5 and no 7s, shall be improving.

Appendix 10: State Board Information Packet

On September 23, 2002, the Arizona State Board of Education (Board) must adopt the achievement profile formula for Arizona public schools, including charter schools, in order to complete the school classifications as required in ARS § 15-241 (Arizona LEARNS) on October 15, 2002.

The purpose of this document is to inform the Board of all the necessary decisions required to adopt the achievement profile and provide specific data to inform those decisions. This document includes an overview of the general process to produce the achievement profiles, a summary of the actions before the Board, specific numeric values associated with those actions and the administrative policies necessary to implement the achievement profiles.

The achievement profile was developed according to a research-based methodology by Arizona Department of Education (ADE) staff and members of the education community. The ADE will produce a technical report with specific formulas and supporting documentation.

GENERAL PROCESS TO PRODUCE THE ACHIEVEMENT PROFILES

The achievement profile for a public school includes a school classification and all related school improvement data. The general process to determine the achievement profile for each school is as follows:

➢ Identify the Baseline Group for each subject/grade combination
➢ Calculate total Growth Points for each subject/grade combination
➢ Determine the subject/grade value for each subject/grade combination
➢ Add all subject/grade values
➢ Evaluate the sum of subject/grade values according to the appropriate school classification scale

Identifying the Baseline Group

There are six (6) Baseline Groups created by five (5) different separation points. The separation points for each subject/grade combination are listed in Attachment One. Schools in Baseline Group 1 are below the Maintaining Line and can be classified only as either Under-performing or Improving.

> BOARD ACTION: The Board must adopt the Baseline Group separation points in Attachment One.

Calculating Total Growth Points

Total Growth Points for each school and subject/grade combination are calculated by adding the following figures:

Elementary schools (Reading and Mathematics):

> The difference between the average percentage of students in the Falls Far Below (FFB) performance level on AIMS over the 2000-2002 academic years and the percentage of students in the FFB performance level on the 2000 AIMS.

> The difference between the average percentage of students in the Meets or Exceeds (M/E) performance levels on AIMS over the 2000-2002 academic years and the percentage of students in the M/E performance levels on the 2000 AIMS.

> The Added Evidence Growth Points according to the average percentage of students making One Year's Growth (OYG) according to the Measure of Academic Progress (MAP) over the 2000-2002 academic years (see Attachment 2).

BOARD ACTION: The Board must adopt the Added Evidence Growth Points for MAP in Attachment 2.

Elementary schools (Writing)

> The difference between the average percentage of students in the Falls Far Below (FFB) performance level on AIMS averaged over the 2000-2002 academic years and the percentage of students in the FFB performance level on the 2000 AIMS.

> The difference between the average percentage of students in the Meets or Exceeds (M/E) performance levels on AIMS averaged over the 2000-2002 academic years and the percentage of students in the M/E performance levels on the 2000 AIMS.

> The Added Evidence Growth Points based on the average percentage of students with an extended writing trait score of 24 or higher on AIMS over the 2000-2002 academic years (see Attachment 3).

BOARD ACTION: The Board must adopt the Added Evidence Growth Points for extended writing in Attachment 3.

High school (Reading and Writing)

> The difference between the average percentage of students in the Falls Far Below (FFB) performance level on AIMS averaged over the 2000-2002 academic years and the percentage of students in the FFB performance level on the 2000 AIMS.

> The difference between the average percentage of students in the Meets or Exceeds (M/E) performance levels on AIMS averaged over the 2000-2002 academic years and the percentage of students in the M/E performance levels on the 2000 AIMS.

High school (Math)

> The difference between the average percentage of students in the Falls Far Below (FFB) performance level on AIMS averaged

over the 2001-2002 academic years and the percentage of students in the FFB performance level on the 2001 AIMS.

➢ The difference between the average percentage of students in the Meets or Exceeds (M/E) performance levels on AIMS averaged over the 2001-2002 academic years and the percentage of students in the M/E performance levels on the 2001 AIMS.

Determining the Subject/Grade Value for Each Subject/Grade Combination

There are four possible subject/grade values zero (0), three (3), five (5) and seven (7). The determination of subject/grade values is based on the following table.

Table 1:

Baseline Group

	-1.0 SD	-.5 SD	$\bar{X}$	.5 SD	1.0 SD	
6				7			
5	0	3	3	5	5	5
4	0	3	3	5	5	5
3	0	0	3	3	5	5
2	0	0	0	3	5	5	Maintaining Line
1	0	0	0	0	5	5

A school with a three-year average of 90% of students Meeting or Exceeding the standards or higher in any subject/grade combination is awarded a subject/grade value of seven (7) for that subject/grade combination.

The growth cut points for each subject/grade combination are listed in Attachment 4.

BOARD ACTION: The Board must adopt the Growth Cut Points for each subject/grade combination in Attachment 4.

The achievement profile for high schools includes the Graduation and Annual Dropout Rates. The following table summarizes the Graduation and Dropout Rate targets.

Table 2:

Baseline* Dropout Rate	Target**	Baseline* Graduation Rate	Target**
6-9%	1% Decrease	74-90%	1% Increase
> 9%	2% Decrease	< 74%	2% Increase

* The baseline is the 2000 academic year

** The Annual Dropout Rate targets are the difference between the baseline year

And the three-year average for the 2000-2002 academic years. The Graduation

Rate targets are the difference between the baseline year and the two-year

average for the 2000-2001 academic years.

BOARD ACTION: The Board must adopt the Graduation and Dropout Rate targets.

Add All Subject/Grade Values

The subject/grade values for the Annual Dropout and Graduation Rate indicators will be awarded based on the following table.

Table 3:

School met target in		Subject/grade
Graduation	Dropout	Value
90% or Greater 3-Year Average	6% or Less 3-Year Average	7
Yes	Yes	5
Yes	No	3
No	Yes	3
No	No	0

BOARD ACTION: The Board must adopt a method to assign a grade/subject value to the Annual Dropout and Graduation Rate indicators according to whether a school has met the targets.

Evaluating the Sum of Subject/Grade Values to Determine the School Classification

The subject/grade values are added to derive a sum for each school. The sum of all subject/grade values is evaluated according to the appropriate school classification scale to determine the school classification.

The ADE has created two options to assist the Board in adopting the school classification scales. These options are based on pivotal cases where the Board must provide guidance. The entire school classification

scale can be developed based on the Board's decision in these pivotal cases. The key policy question before the Board is whether the school classification scales should reflect a more compensatory or a more conjunctive methodology. In a compensatory approach, higher subject/grade values can have enough influence to improve the school classification despite the presence of low subject/grade values. In a conjunctive approach, higher subject/values are less likely to compensate for the presence of low subject/grade values.

There are two pivotal cases where the Board must provide guidance. The first pivotal case involves breaking ties in cases where there are an equal number of adjacent subject/values. The second pivotal case involves the extreme scenario where a few number of the highest subject/grade value (7) can compensate for a larger number of the lowest subject/grade values (0). The following section includes examples and impact data for both the compensatory and conjunctive options. The Board may decide to break ties using the compensatory method and not allow extreme high values to offset the lowest values using the conjunctive method or vice versa.

COMPENSATORY MODEL

Under this option, schools with an even number of subject/grade values and an equal number of adjacent values are given the *higher* classification, with the exception of the Excelling classification. The following example is the case where a school has six (6) subject/grade values, but the example is applicable to any even number of subject/grade values.

Table 4:

Grade/subject Values						Class.
0	0	0	3	3	3	M
3	3	3	5	5	5	I
5	5	5	7	7	7	I

In addition, the presence of at least one of the highest subject/grade values (7) *can* compensate for a larger number of the lowest subject/grade values (0). The following example is in the case where a school has three (3) subject/grade value but is generalizable to other odd number of subject/grade values.

Table 5:

Grade/subject Values			Label
0	0	7	M
0	0	5	U

School classification scales. The school classification scales under the compensatory option for the six (6) subject/value and three (3) subject value cases are as follows:

Table 6:

Six subject/grade values

Classification	Scale	
Underperforming	0	8
Maintaining	9	23
Improving	24	41
Excelling	42	42

Table 7:

Three subject/grade values

Classification	Scale	
Underperforming	0	5
Maintaining	6	11
Improving	12	20
Excelling	21	21

The school classification scales for the other subject/grade value combinations conform to the decisions consistent with the compensatory option and will be presented at the Board meeting.

Impact data. The impact data is an estimate. The impact data must be interpreted with the following cautions:

Alternative schools are included

Small schools have not been adjusted to remove low-performing outlier students

Not all extremely small schools have been excluded

Only schools with all necessary data are included (missing data has not been adjusted to a subject/grade value of zero and irregular cases have not been corrected)

Table 8:

Compensatory Option: State level results

	Number of Subject/grade values					Total
	3	4	6	9	**Total**	Percent
Underperforming	65	43	69	23	200	18%
Maintaining	98	132	232	85	547	48%
Improving	82	48	228	27	385	34%
Excelling	0	0	0	0	0	0%
Totals	245	223	529	135	1132	100%
Note: All cells represent the number of schools with the exception of the last column.						

CONJUNCTIVE MODEL

Under this option, schools with an even number of subject/grade values and an equal number of adjacent values are given the *lower* classification. The following example is the case where a school has six (6) subject/grade values, but the example is applicable to any even number of subject/grade values.

Table 9:

Grade/subject Values						Class.
0	0	0	3	3	3	U
3	3	3	5	5	5	M
5	5	5	7	7	7	I

In addition, the presence of at least one of the highest subject/grade values (7) *can not* compensate for a larger number of the lowest subject/grade values (0). The following example is in the case where a school has three (3) subject/grade values, but is generalizable to other odd number of subject/grade values.

Table 10:

Grade/subject Values			Label
0	0	7	U
0	0	5	U

School classification scales. The school classification scales under the conjunctive option for the six (6) subject/value and three (3) subject value cases are as follows:

Table 11:

Six subject/grade values

Classification	Scale	
Underperforming	0	14
Maintaining	15	24
Improving	25	41
Excelling	42	42

Table 12:

Three subject/grade values

Classification	Scale	
Underperforming	0	8
Maintaining	9	12
Improving	13	20
Excelling	21	21

The school classification scales for the other subject/grade value combinations conform to the decisions consistent with the conjunctive option and will be presented at the Board meeting.

Impact data. The impact data is an estimate. The same cautions listed in the compensatory options also apply to the impact data in the conjunctive option.

Table 13:

Conjunctive Option: State level results

	Number of Subject/grade values					Total
	3	4	6	9	**Total**	Percent
Underperforming	91	68	134	51	344	30%
Maintaining	73	120	201	65	459	41%
Improving	81	35	194	19	329	29%
Excelling	0	0	0	0	0	0%
Totals	245	223	529	135	1132	100%
Note: All cells represent the number of schools with the exception of the last column.						

> BOARD ACTION: The Board must adopt a school classification scale for every possible subject/grade combination. The Arizona Department of Education has provided two different sets of school classification scales and the Board may adopt one.

PROCESS TO IDENTIFY UNIQUE SCHOOLS

Small Schools Adjustment

A small school is defined in ARS § 15-241 as a school with a student count of less than 100 as determined by unweighted Average Daily Membership (ADM). For every subject/grade combination with 16 or more students tested, the ADE will adjust the school's data to remove low-performing outlier students and complete the conventional process to produce an achievement profile. If after the adjustment the subject/grade value is changed, the school shall receive the higher of subject/grade value.

Alternative Schools

A public school desiring identification as an *alternative school* must apply to the Arizona State Board of Education for such status. These schools must be separate entities according to Arizona school finance provisions (funded as a school, reported as a school, etc.). Alternative school status will *not* be granted to a program within a school.

Alternative School Definition

An *alternative school* is a school that the Arizona State Board of Education has determined meets *all* of the following criteria:

➢ A school operated by a school district must have adopted a mission statement that clearly identifies its purpose and intent to serve a specific student population (please see criterion #3) that will benefit from an alternative school setting. A charter school must be expressly chartered to serve a specific student population that will benefit from an alternative school setting. (Note: The school's mission statement or charter must be communicated to the public.)

➢ The educational program and related student services of the school must match the mission or charter of the school.

➢ The school must intend to serve students exclusively in one or more of the following categories:

- Students with behavioral issues (documented history of disruptive behavior)

- Students identified as dropouts

- Students in poor academic standing who are either severely behind on academic credits (more than one year) or have a demonstrated pattern of failing grades

- ▪ Pregnant and/or parenting students
- ▪ Adjudicated youth
- ➢ Any school offering secondary instruction for academic credit used to fulfill Arizona State Board of Education graduation requirements (in part or in full) must offer a diploma of high school graduation.

<u>Please Note</u>: No public school district may have more than ten percent (10%) of their total student population attending an alternative school or any combination of alternative schools served by the district at one time. Smaller districts, if they wish, may participate in the development of a "consortium" alternative school.

Achievement Profile for Alternative Schools

- ➢ Ninety-five percent (95%) of students taking Arizona's Instrument to Measure Standards (AIMS). **Criteria:** The ADE will develop a consistent formula to determine the percentage of students taking AIMS for all public schools and will apply this formula to alternative schools.

- ➢ Decrease Dropout rate. **Criteria:** Alternative schools will have the same Annual Dropout Rate targets as conventional public schools (see Table 2).

- ➢ Increase the percentage of graduates who demonstrate proficiency on the Standards via AIMS. **Criteria:** The 2002 academic year is the baseline. Every alternative school is expected to have 100% of graduates demonstrate proficiency of the Standards via AIMS by 2006. The expected annual progress for each alternative school is calculated as follows:

  1. Subtract the percentage of graduates who also demonstrate proficiency of the Standards on the 2000 AIMS from 100%.
  2. Divide the remainder by four (4).

The ADE will report the progress of all alternative schools to the Board in Fall 2003. The first school classification for alternative schools will be provided in Fall 2004.

> BOARD ACTION: The Board must approve the definition, criteria and timeline for the alternative schools achievement profile.

ADMINISTRATIVE POLICIES

Schools Not Receiving a Label on October 15, 2002

- ➢ New schools – defined as schools that opened for the first time after Summer 2000. Once a school has been operational for three

(3) test administrations, the school will receive an achievement profile.

➢ K-2 schools – defined as schools that serve any combination of grades from kindergarten to second grade and do not serve students in grades three (3) or higher.

➢ Accommodation schools – see statute for definition

➢ Extremely small schools – defined as schools with less than 16 students in over 1/3 of all possible subject/grade combinations. Schools with at least 16 students in 2/3 or more of all possible subject/grade combinations will receive an achievement profile based on the data available.

➢ Alternative schools – includes all schools that have indicated their intention to apply to the Board for alternative school status. If a school is not granted alternative school status, the school will be evaluated according to the conventional achievement profile process adopted by the Board for other schools that serve students in similar grade levels (See the Alternative School section for the achievement profile criteria and formula for schools granted alternative school status by the Board).

Missing Data

➢ A school that has not provided the necessary data for any subject/grade combination shall receive a subject/grade value of zero (0) for that subject/grade combination.

BOARD ACTION: The Board must approve the preceding actions/policy decisions.

REVIEW

The Board shall review the achievement profile formula on an annual basis.